Volunteer Firemen

Professional Journal of the Volunteer Firemen's Section of the National Fire Protection Association

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Photos by J. Burr Taylor

Parade showing the evolution of fire apparatus from hand operated pumpers to motor aerial trucks preceded the contest events of the National Firemen's Tournament held in Soldier Field Stadium, Chicago on Labor Day weekend.

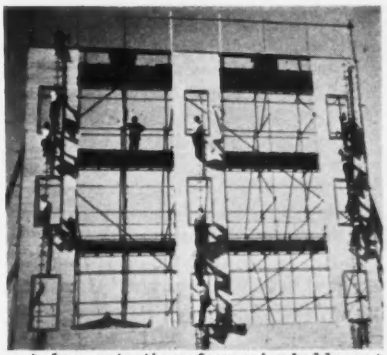
Win National Tournament

N.F.P.A. Members Take First Three Places and Prize Money in Volunteer Contests at Chicago's Charter Jubilee Meet

THE Western Springs, Illinois, fire department, member of the N.F.P.A. Volunteer Firemen's Section, won the $500 prize money and the grand prize in the contests for volunteer departments at the National Firemen's Tournament held at Soldiers' Field, Chicago, during the Labor Day weekend. Second prize, and the trophy cup offered by Mayor Kelley, was won by Steger, Illinois, and third place and honorable mention went to Sault Ste. Marie, Michigan. Both of these fire departments are also N.F.P.A. members.

Twenty-one departments competed in the volunteer contests. Other places in events were won by the departments of Menominee Falls, Wisconsin, Morton Grove, and Lake Zurich, Illinois.

Nine states were represented at the tournament, but the contests had a strong local flavor, 24 of the 31 teams in the volunteer and paid department events being from cities in nearby Illinois, Indiana and Wisconsin. In the events for paid departments, small-town firemen bested the "big city" teams. The team from Colorado Springs, Colorado (population 33,000) swamped Chicago's crack drill squad winning 44 points in the paid department events to Chicago's 22. Third place went to Gary, Indiana. Other event winners included department teams from Oak Park and Evanston, Illinois, Louisville, Kentucky, and Baltimore, Maryland.



A demonstration of pompier ladders at the temporary drill tower in the stadium.

Some 100,000 spectators viewed the operations. Volunteer contests included wall scaling, raising ladders, life line rescue, alarm response and hose layout. Contests for paid departments embraced pompier ladder drills, the raising of extension and aerial ladders, rescue work with life line and life net, handling charged lines and alarm response.

The three winning volunteer fire departments each also won prize money in individual contest events. In addition to the grand prize of $500, the Western Springs, Illinois, department took $50 as winner of a rescue contest at the drill tower. The Steger, Illinois, department won $50 in the wall scaling contest and the Sault Ste. Marie department won $50 in a ladder raising event.

A Smooth Working Fire Organization

Teamwork in a Volunteer Fire Department May Be Assured by a Set of Rules Which Outline the Job of Each Officer and Man

THE gross inefficiency of the ancient Athenian army which had a different general for every day of the week is known to every school boy. Emergency work whether military or in the fire service demands decisive and speedy action. When the fire alarm rings there is no time to quibble over the matter of leadership or for holding a council of war by the entire company to decide the best method of attacking the fire. The best qualified man must assume the responsibility of making the necessary decisions. The man to whom this responsibility comes in the fire service is the chief.

Not only must the commander be ready when the alarm sounds but every man must know what he is expected to do. For these reasons every well managed fire department adopts a set of rules and regulations so that every fireman will know what is expected of him. It is no more unreasonable for a volunteer fireman to obey the rules of the department than it would be for him to voluntarily obey the rules of a club or lodge. Obviously, however, the rules should be simple and concise and need not include many of the details included in rules for a paid department. Many details of a temporary nature can be handled at company meetings or left to the discretion of the chief.

Rules in a volunteer department are not a club to enforce authority. But they are a statement of what each fireman volunteers to do to make the department a smooth working fire fighting organization and provide proper teamwork. It is obvious that the rules must vary with local conditions and additions or revisions of the rules must be made occasionally.

Although in a volunteer department much depends upon the discretion of the chief, a good set of rules outlines in a broad way what is expected of the head of the department. While in practice the chief may delegate much of the actual work to other members of the department, in the last analysis, the chief is responsible for the success of the department.

The rules of a volunteer department should cover the following duties of the chief, requiring that he shall:

1. Attend fires and direct the fire fighting operations being responsible for the safety of the men.
2. Determine the cause of each fire and preserve evidence of incendiarism.
3. Keep all apparatus and equipment in good condition ready for service.
4. Have firemen properly trained in their duties and enforce the rules of the department.
5. Direct inspections of hydrants and other sources of water supply.
6. Keep citizens informed of fire hazards in the community and on the activities of the department.
7. Enforce fire prevention laws and regulations of both the state and community. In many states the local fire chief is an assistant state fire marshal, charged with the enforcement of state fire prevention regulations.
8. Prescribe fire alarm signals for use by the department and have the fire alarm tested at a regular time each day.

AFTER the detailing of the duties of the chief one of the most important functions of a set of rules is to outline the succession of responsibility in event of the absence or incapacity of the chief. For this purpose at least two assistant chiefs are usually provided and are rated as First and Second Assistant Chief. At fires at which the chief is present assistant chiefs normally assume command of a certain part of the operations. They are expected to report to the chief the conditions in their respective positions. In departments serving a large territory and having several stations there may be district chiefs assigned to command a particular district.

After describing the duties of chief officers the next heading in the rules would be "Companies and Company Officers." Even if the department maintains but one station it is customary to have the personnel assigned to various companies or operating units. The rules should indicate the number of men assigned to each company and the manner in which company officers are to be appointed. Where volunteer departments are largely supported by public funds the chief usually appoints all subordinate officers. In many cases, however, where the volunteer department is an independent organization and earns its own funds it is a common practice to have officers elected by the company or department. The best practice is to have a captain and lieutenant for each company. In the absence of chief officers the captain of the first company to arrive is in charge of the fire.

DEPARTMENT rules should hold each captain responsible for the efficiency of his company, and require him to:

1. Direct his company at fires and carry out the orders of the chief.
2. Inspect the equipment of his company each month and make a complete report of its condition.
3. Cause a record to be kept of all activities of the company and a record of the attendance of each member at fires, company meetings and drills.
4. See that hose is cleaned and dried after it is used and that hose on the apparatus is changed at proper intervals, preferably once a month.
5. Make sure after a fire that the water tank and extinguishers are recharged and ready for use.

In addition to stating the duties of various officers the rules should outline the duties of members assigned as drivers, hosemen, and laddermen. Drivers of course should be chosen because of driving and mechanical ability and must be thoroughly familiar with the operation of the apparatus. There should be at least five drivers assigned for each company (under the conditions where the company is 100 per cent volunteer with no paid drivers regularly on duty). One of the drivers in the department should be assigned as master mechanic and made responsible for the operation and condition of the apparatus. Duties of drivers to be specified in the rules:

1. A weekly inspection of the apparatus to check the tires, batteries, oil level, and other features which require attention. After each run an inspection should be made and the gasoline tank refilled.
2. A report to the captain of any required repairs.

3. Take care not to overload the apparatus or operate the pump at a pressure greater than that necessary to give a good fire stream under the conditions.
4. Take care to prevent the equipment from freezing during winter service.

Hosemen are responsible for the actual extinguishing operations at fires and are expected to know the technique of fire fighting. For example they should never play a stream into smoke where no fire is visible because the water is unlikely to reach the fire and may cause unnecessary damage. The principal duties of hosemen to be specified are:

1. The laying and operation of all types of hose streams including booster, 1½-inch, and 2½-inch hose.
2. The use of chemical extinguishers and special fire fighting appliances.

CONTRARY to a common belief of uninformed persons, the duties of laddermen are among the most essential fire fighting operations. Upon the efficient performance of their duties to a large extent depends the successful control of the fire. A negligent and inefficient ladder crew which forces the hosemen to perform many of the ladder company duties is a great handicap to any department. Unfortunately many ladder companies do not fully realize what their duties are and listing the following in the rules is desirable.

Duties of laddermen are to:

1. Make rescues.
2. Make sure that all occupants have escaped from the burning building.
3. Raise ladders for hosemen.
4. Open up and ventilate burning buldings so that hosemen may quickly bring their streams upon a fire at close range.
5. With axes and plaster hooks accompany hosemen working inside buildings and open doors, partitions and ceilings when necessary.

Where there is no separate squad company, laddermen are responsible for salvage operations to reduce water damage and have the additional duties of:

1. Promptly spreading salvage covers where they will do the most good, usually below the fire.
2. Quickly assembling the contents of a room so as to cover as much property as possible with one cover.
3. Removing water and débris.
4. Covering holes in the roof.
5. Cleaning and drying salvage covers.

Farm Fires Cause Huge Loss

FARM FIRES COST THIS COUNTRY MORE THAN $100,000,000 A YEAR OR THE COST OF CONSTRUCTION OF THE EMPIRE STATE BUILDING, NATIONAL CAPITOL AND NORMANDIE —
$52,000,000
$24,000,000
$30,000,000
$1 OUT OF EVERY $10 OF THE NATIONAL FIRE LOSS TAKES PLACE ON FARMS AND RURAL COMMUNITIES —
USE MATCHES CAREFULLY
DO NOT SMOKE IN BARNS
HUNDREDS OF PEOPLE ESPECIALLY ON FARMS, STILL LOSE THEIR LIVES BY USING KEROSENE OR GASOLINE TO QUICKEN FIRES IN STOVES
FARM FIRES USUALLY BRING TOTAL RUIN —

Would you like to put a copy of this cartoon in your local newspaper? On request of any reader we will send a copy of this dramatic presentation of fire losses together with a story on farm fires written by a distinguished national authority, which can be handed to the editor of your local paper.

It should be remembered that where there is not a separate ladder truck it is necessary for laddermen to remove ladders and tools before the pumper goes to the hydrant. Also it should not be forgotten that in a volunteer department it is seldom possible to determine who will arrive first at a fire. Rules for a volunteer department therefore require that all members shall assist in the work of the department whether it may be one of their assigned duties or not. At a fire they should report promptly to their own officers and obey orders. Department rules would also provide for regular meetings and practice drills.

It is obviously impossible in the limitations of this article to list all of the items which might be covered by a set of rules for a volunteer fire department. For example rules would hold members responsible for assigned equipment such as helmet, boots, coat and spanner. Rules might also call for the testing of fire hose each Spring at a pressure of at least 150 pounds per square inch.

The N.F.P.A. Committee on Farm Fire Protection has, however, prepared a set of rules for volunteer departments. These rules have not been formally adopted yet but have been published in order that they may be studied and criticized. The N.F.P.A. Farm Fire Committee would appreciate it if readers of VOLUNTEER FIREMEN would write for a copy of these rules and make suggestions and criticisms on the basis of practical experience with their own departments. From such pooling of experience should evolve a set of rules which will enable departments to achieve maximum effectiveness in keeping their respective communities safe from fire.

Larger Pumpers and Longer Ladders

Sales Show Trend to Larger Capacity Pumpers and Aerial Ladders of the New "Junior" Types Prove Just What Volunteers Have Needed

THERE is no one standard by which the general public judges the fire department more than by the apparatus. In fact, many citizens' only knowledge of the fire department is the type of apparatus in service. The public cannot competently pass judgment on fire fighting tactics but they can readily tell whether the department is equipped with up to date apparatus or with rattletrap trucks which are just one cough or sputter ahead of the junk heap. The public generally assumes that where the fire department has modern equipment it must be well supported and under competent management.

At the present time sales of fire apparatus are on a substantial upswing. During the depression comparatively little fire apparatus was purchased and much of the equipment in service has become obsolete and undependable. A survey made by the N.F.P.A. last year indicated that two-thirds of the fire apparatus in service was over ten years old and much of this is known to be more than twenty years old and obviously cannot be relied upon.

According to the United States Census Bureau figures for the first seven months of this year, sales of fire apparatus increased 80.5 per cent over a similar period two years ago. While it is probably true that in the intervening period many a decrepit old fire truck gave its last wheeze and had to be replaced, much of the credit for increased fire apparatus purchases is due to the improved types offered by progressive manufacturers. The poor economy of relying upon obsolete equipment could no longer be ignored. Much of the early motor fire apparatus was little different in design from the horse drawn equipment which preceded it with the exception of the motor out in front. Now fire apparatus is being designed from the user's point of view with enclosed cabs and many other improvements. Firemen are no longer willing to tolerate such glaring defects as two wheel brakes, low powered motors, solid tires, pumps of insufficient capacity, cumbersome operation and difficulties in obtaining spare parts. Many communities have come to realize that one of the quickest ways to drag down the morale of the department is to make firemen use antiquated unserviceable equipment and that a systematic apparatus replacement program is more efficient and economical than waiting until it is necessary to replace a large amount of worn out equipment at one time.

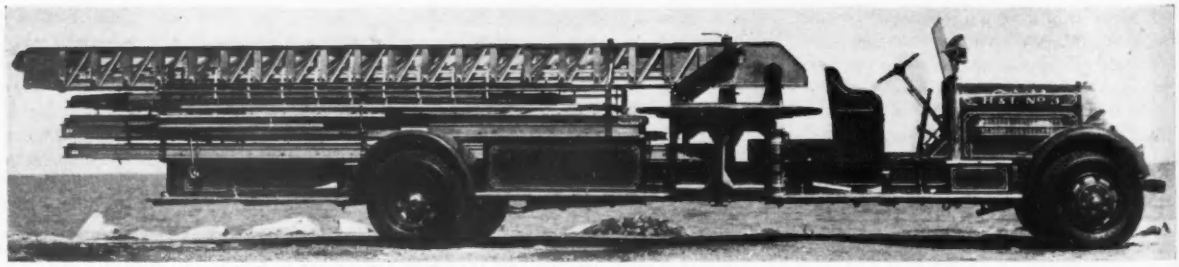
INTEREST in new apparatus obviously centers on pumping equipment. Purchases of pumpers for the first seven months of 1937 was nearly double that of an equal period two years ago, the increases amounting to 88.7 per cent.

With the increased sale of pumpers has also come an increase in pumper capacities. Out of 443 pumpers sold in the first part of 1937 only 64 machines were rated under 500 gallons per minute capacity. Two years ago during an equal period 70 small capacity pumpers were purchased out of 235 delivered during the period. In other words the percentage of pumpers of less than 500 g.p.m. capacity purchased, dropped from 30 per cent in 1935 to under 15 per cent in 1937.

Fire departments are demanding larger pumper capacities because:

1. Experience has shown that it is poor economy to rely upon pumpers which can supply only one line and which will be overtaxed at large fires. Such pumpers tie up a hydrant which perhaps could supply three lines or more.
2. At least 500 gallons rating is needed to supply two short hose lines or one long line at high pressure.
3. Improved designs make greater capacities and higher pressures available with smaller and more mobile units than formerly possible.
4. Even small pumps, front mounted or otherwise, on the light truck chasses are available in capacities of 500 to 600 g.p.m.
5. The additional cost for a larger size pump over a small capacity unit is not a large factor in the total cost of a piece of apparatus.
6. Large capacity high pressure pumpers are being employed for congested areas to reduce the number of pumpers needed at a fire, to supply heavy streams, and to protect tall buildings.

Twenty-eight pumpers of more than 1000 gallons capacity were purchased in seven months this year as compared with only four for a similar period two years ago. Over half of the pumpers thus far delivered in 1937 have capacities of between 500 and 700 g.p.m. and nearly one-third of the pumpers sold rated at over 700 gallons a minute. The relative number of large capacity pumpers is likely to increase as the importance of having adequate capacities to fight large fires is recognized by local purchasing authorities.



65 ft., 3 section all metal aerial. Peter Pirsch and Sons Company, Kenosha, Wisconsin

Aerial ladders are no longer only for big cities. Now that these ladders are available in "junior" and "intermediate" types, any department which can afford a ladder truck can have an aerial. Mechanical operation of the aerial by one man makes rescue work and other ladder operations quicker and safer.

It is also interesting to notice that almost no hose trucks without pumps are being sold today while a few years ago many combination hose and chemical trucks were in service. Apparently purchasers now realize that with a piece of motor apparatus it is poor economy not to use the motor to drive a pump. Even departments using separate hose-carrying tenders for pumpers now frequently use a second pumper as tender instead of a non-pumping hose truck. A double pumping capacity and reserve equipment is thus obtained at small additional cost.

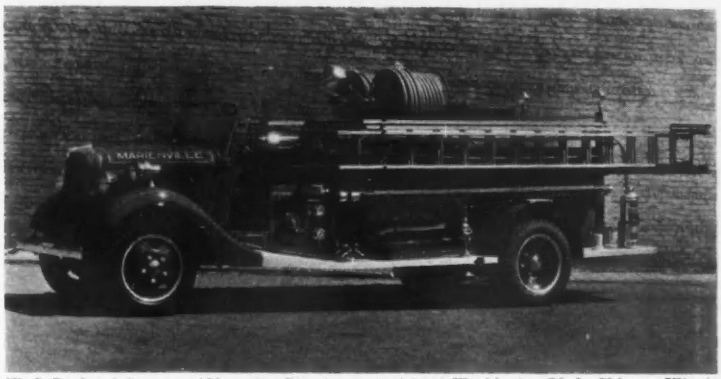
NEXT to pumpers, ladder trucks are probably the subject of most interest in the fire apparatus line. Strange to say however ladder equipment in many communities has been badly neglected. Pumpers are considered a first necessity and in hard times there is frequently no money left for ladder trucks. This is partly due to the fact that a ladder truck is a large piece of equipment and usually costs more than a pumper. During the first seven months of 1937 there were 45 ladder trucks purchased in the United States, an increase of 15 over the same period in 1935.

More striking than the mere increase in purchases is the fact that seven out of every nine ladder trucks sold today are of the aerial type. To a large extent this is due to the comparatively recent introduction of "junior" and "intermediate" size aerials. These machines carry a ladder 50 to 65 feet in length which is mounted on a chassis similar to that of a service truck. This eliminates the necessity for a tiller wheel to steer the rear end as in the case of the larger aerial trucks. In small departments having few men, one man can now take the big ladder to a fire and operate it as compared with approximately six men required to manually raise the longest ladder carried on a service truck.

Where a fire department is large enough to maintain a separate ladder truck there is little justification for not buying an aerial ladder. Where only a small number of long ladders are needed however, the quadruple combination (pumper, hose, booster and ladders) is becoming very popular as it provides both ladder equipment and a reserve pumper. Another factor which has increased the popularity of aerial ladders is the introduction of metal ladders for the "big stick." These ladders are now made in three sections and therefore require a shorter wheelbase than that needed for the two-section wooden aerials. Metal aerials are being made 100 feet high as compared with an 85-foot maximum for wooden ladders.

The U. S. Census Bureau reports establish the passing of the old fashioned chemical engine. Only one motor driven chemical truck has been purchased this year. We wonder what single backward community does not know that the chemical engine is now almost as much of a museum piece as its former companion, the steam pumper.

American-Marsh Pumps, Inc. (Barton Pumps) Battle Creek, Mich.



W. S. Darley & Company (Champion Fire Apparatus) 2810 Washington Blvd., Chicago, Illinois

Mack-International Motor Truck Corp., 34th St. and 48th Ave., Long Island City, New York

Volunteer fire departments purchase four out of every five pumpers built. The trend is to larger pumpers, more than half of those sold this year being between 500 and 700 gallons per minute capacity. Three popular types are shown: top, front mounted pump; center, midship pump on light truck chassis; bottom, pumper for heavy duty.

Dangers of Amateur Wiring

Fires Frequently Result Because Home Electricians Do Not Realize Dangers of Neglecting Details Required by National Electrical Code

By Albert W. Kimball
Lieutenant, Fire Department
Hingham, Massachusetts

AS A volunteer fire department officer and an electrician I find that whenever a chief or fire inspector cannot find a reason for a fire starting there is a tendency to blame it on defective wiring. We had an instance a few years ago when a fire was reported as being due to defective wiring when lo and behold the current had been cut off for six months on the pole outside. If all fire officials would use the Manual for Investigating and Reporting Electrical Fires prepared by the International Association of Electrical Inspectors and described in the December 1936 issue of VOLUNTEER FIREMEN, this trouble would be eliminated and we would have an accurate record of electrical fire causes. This manual contains a complete list of specific electrical fire causes and if the investigator cannot match up the fire with one of the causes listed he has insufficient data to reasonably attribute the fire to electrical defects.

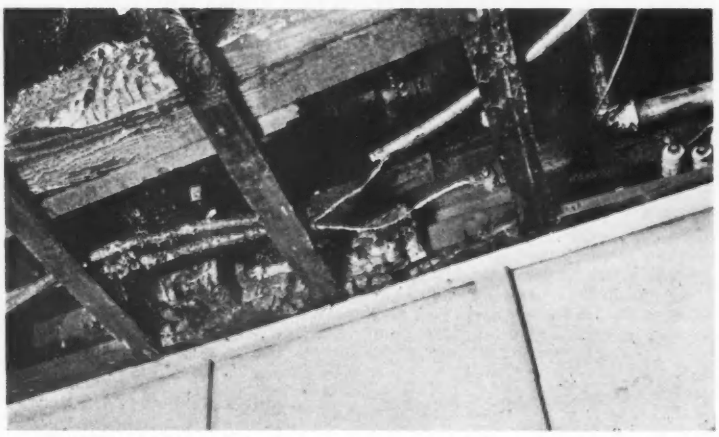
IN MY state a qualified electrician must file a permit with the local Inspector of Wires describing the electrical work he is to do. If the Inspector has any confidence in the electrician he may or may not inspect before the job is chased in, but is certain to come and look the job over. After the work is complete the current is turned on. The people move in, or perhaps have been occupying the building during the work. At times the "home electrician" is watching the work and he says, "Oh, there's not much to that" and "I guess I could do that easy enough." Then the electrician begins to solder and tape the joints and he says, "That isn't necessary is it?" The electrician tells him that it is a law that all joints must be soldered and taped according to the National Electrical Code.

Well, after the electrician is on his way and the job is done the owner decides he wants another light or receptacle and puts it in himself. He does not solder the joints and only uses friction tape on them. Later the joints loosen and an arc is the result. If this happens to be under a floor or other favorable place your fire has started. After the fire is out the chief wants to know who did the wiring. The owner gives the name of the electrician who gets blamed for poor workmanship until he can get proof from the Inspector of Wires but it leaves a bad impression.

At one time we had a case like this in the basement of a store. The trouble occurred in a 3-inch junction box on which was a light. Due to constant pulling and because there was no solder, arcing occurred. There was not an inch of insulation on the wires in the junction box and the floor timber was charred. The manager thought an unauthorized employee did the job.

OVERLOADING is the greatest electrical fire hazard I know of today. A person uses pennies or a larger fuse than the size of wire permits to prevent fuses from blowing and when trouble or an overload occurs the wires heat and you have a partition fire. We are now using no-fuse panels which are nothing more than a small circuit breaker made for the desired amperage. When an overload occurs they trip off just as long as the condition exists. A lot of electricians believe that these circuit breakers should be made compulsory instead of fuses.

There should also be a law in effect that only licensed men may install wiring regardless of location because only an electrician knows what equipment is approved and safe for various locations and what the current carrying capacity of various devices should be. Further amateurs do not know the proper methods of splicing or nailing wires and many other details of workmanship necessary to make a fire safe installation. Under our laws the owner of a house can do electric work in his own place. He is supposed to file a permit with the Inspector of Wires but only one in a hundred ever do. It would be for the owner's good to require that all wiring be done by licensed electricians according to the National Electrical Code. This would eliminate many fires caused by improperly installed electrical service extensions and substandard equipment. Only approved electrical equipment bearing the label of Underwriters' Laboratories, Inc., should be used in electrical work. In many cases you will find conductor wires in use which have an insufficient capacity and which are poorly insulated. The result is that the wires are unable to safely carry the load for which they were installed and when an overload occurs there is insufficient insulation to prevent a short circuit.



Dripping moisture from pipes above was thought to have rotted the insulation of the electrical wires shown. Contact of wires with each other or with the metal ceiling directly below caused a fire which took seven lives in the Van Deusen Inn at Westfield, Mass. during January 1936. As is common with electrical fires the flames spread through the building by means of the partitions before being discovered.

What's Your Fire I. Q.?

This Quiz Will Show How Well Posted You Are and It's a Good Stunt to Spring on Your Friends During Fire Prevention Week

WHAT'S your I. Q. (intelligence quotient) expressed in terms of what you know about fires and fire prevention? Each of the following statements is followed by several possible answers. In each case only one is correct. To find your rating check your answers with the correct ones given on the next page. Multiply the number correct by four to find your percentage. If, for example, you answered 20 of the 24 correctly your rating would be 80. That's pretty good for a layman, and should be easy for any fireman with a reasonable amount of experience.

1. Fire Prevention Week commemorates:
San Francisco Conflagration, 1906
572 people killed in Iroquois Theatre fire, Chicago, 1903 Nothing special
Chicago Conflagration, 1871

2. Approximately....people in the United States are killed annually by fires:
10,923 200,000 10,000 3,000

3. Fuses are installed in your house mainly to:
Prevent circuits from overheating
Prevent static in radio
Save electricity for the company
Turn out lights in case of fire
Prevent meter from burning out

4. A non-explosive dust is:
Talcum powder Aluminum dust
Grain dust Wood dust
Cornstarch dust Any dust

5. In case of a gas leak you should first:
Look for it with a match
Try all the burners on the stove
Look for the main shut off
Call the gas company Run

6. Frozen water pipes should be thawed with:
Hot water Blow Torch Candle
Solution of lye and acid Salt

7. John J. McElligott is:
Fire Marshal of Scotland
Fire Chief and Commissioner of New York City Ambassador to Poland
Fire Marshal of New York State

8. The country with the largest per capita fire loss is:
Russia France United States
Australia Sweden England

9. Most conflagrations spread from building to building by means of:
Sparks on wooden shingle roofs
Sparks on wooden side walls of buildings Grass fires Falling walls

10. The average annual fire loss in the United States for the last ten years is:
$50,000 $700,000 $12,000,000
$380,000,000 $1,000,000,000

11. Lightning rods are installed mainly to:
Prevent static in radios
Carry lightning safely to the ground
Support weather vanes Decorate roofs

12. One third of all forest fires are caused by:
Spontaneous ignition Lightning
Careless campers and sportsmen
Locomotive sparks Hot sun Indians

13. The largest factor in basement fires is:
Rubbish Electric washing machines
Oil tanks Rats and matches
Hot water boilers

14. Ashes and rubbish should be kept in:
Piles on the floor Wooden barrels
Closet under stairs
Covered metal barrels Wire baskets

Fire Prevention Week commemorates.....?

15. Experiments have shown that mice:
Start fires by gnawing matches
Frequently tip over candles
Are not afraid of fire
Do not gnaw heads of matches

16. When matches were invented, the inventor, Kamerer, was:
Made science professor at a German university Knighted
Given life pension by the government
Forbidden to make or sell them
Sent on a world demonstration tour

17. If you value your life you should never smoke in:
Radio City Music Hall Bed
Telephone booths Bath tub
U. S. Supreme Court

18. To operate a chemical (soda-acid) fire extinguisher, you should:
Throw it into the fire Unscrew top
Invert it Push button on the side
Jerk hose three times

19. Gasoline may be safely used in:
Home dry cleaning Automobiles
Washing floors Starting fires
Glass milk bottles

20. Spontaneous ignition does not occur in:
Damp hay Oily rags Hard coal
Painters' overalls Rubbish piles

21. When the excursion steamer, General Slocum, burned in New York Harbor...people were burned to death:
24 79 143 1,030 2,310 760

22. The San Francisco Fire of 1906 was started by:
Earthquake Lightning Burning brush
Careless smoker Cow kicked lantern

23. In case of fire you should first:
Open doors and windows
Take out furniture and valuables
Tie a handkerchief over your face
Call the fire department
Get down on the floor

24. Burning fat in a kettle on the stove should be put out by:
Throwing kettle out of window
Throwing water on it
Sifting cornstarch on it
Sliding tin cover or plate over it

25. If your clothing catches fire you should:
Run to the nearest fire station
Lie down and roll yourself in rug or blanket Get into a bath tub
Run to the nearest river

Burning gasoline tank cars make spectacular fire at a refinery at East Chicago, Indiana. This air view shows effectiveness of modern fire protection measures adopted at such plants. Tanks are properly spaced and diked. A fire can involve only a small portion of the plant at one time.

Answers to I. Q. Quiz

1. Chicago conflagration, Oct. 9, 1871.
2. It is estimated that 10,000 people lose their lives in fires every year.
3. Prevent circuits from overheating.
4. Talcum powder. Dusts of most combustible materials are explosive under certain conditions.
5. Call the gas company. Don't take a chance of an explosion.
6. Hot water. Open flames are dangerous.
7. Fire Chief and Commissioner of New York City.
8. United States. The losses in European countries are much lower.
9. Sparks on wooden shingle roofs are the largest single factor in the spread of conflagrations.
10. $380,000,000.
11. Carry lightning safely to ground.
12. Careless campers and sportsmen.
13. Rubbish.
14. Covered metal barrels.
15. Do not gnaw heads of matches.
16. Forbidden to make or sell them.
17. Bed. Falling asleep while smoking in bed is a frequent cause of loss of life.
18. Invert it. This mixes the chemicals and starts the extinguisher.
19. Automobiles. Any home use of gasoline is dangerous.
20. Hard coal. Oily rags, rubbish, etc. are liable to ignite spontaneously.
21. 1,030. This was the largest loss of life in any single fire in U. S. history.
22. Earthquake.
23. Call the fire department. Put out the fire with an extinguisher if you can, but don't wait to call the fire department.
24. Sliding tin cover or plate over it. Throwing water or sifting cornstarch on a grease fire may cause an explosion.
25. Lie down and roll yourself in a rug or blanket.

A Problem Question
FOR OCTOBER

One question may be given more thorough discussion than two as formerly offered for discussion at company and department meetings each month. Do readers agree that one (such as the following) is enough?

71

Why should firemen know about the private fire protection systems of local industrial plants?

Watch for the answer
in the next issue of
VOLUNTEER FIREMEN

Discussion Subjects

69

Q. Why is amateur electrical wiring dangerous?

A. Fires result when amateur electricians neglect precautions observed by licensed electricians. See page 6.

70

Q. What items would be covered by volunteer fire department rules?

A. The duties of officers and members are important items covered by volunteer fire department rules. See page 2.

△ △ △ △ △

NEW CATALOGUES

This department is for the convenience of readers who wish to be advised of new products or services in the fire field. When writing for catalogues please mention VOLUNTEER FIREMEN.

American-Marsh Pumps, Inc., Battle Creek, Mich. Bulletin No. 75 (Edition No. 4). Data on Barton pumps and fire streams.

W. S. Darley and Co., 2810 Washington Blvd., Chicago, Ill. 100-page catalogue "Everything for Fire Departments," describing a complete line of fire apparatus and pumps.

Federal Electric Co., 8717 South State St., Chicago, Ill. Bulletins Nos. 55 and 56. Complete details of Federal sirens.

Elkhart Brass Manufacturing Co., 1302 West Beardsley Ave., Elkhart, Ind. Catalogue F, covering complete line of fire protection brass goods, hose fittings, nozzles, extinguishers.

The Fyr-Fyter Co., Dayton, Ohio. Four-page illustrated leaflet describing 5-gallon farm fire extinguisher (new shape hand pump type with anti-freeze charge. Approved by Underwriters' Laboratories, Inc.)

Gamewell Co., Newton Upper Falls, Mass. "Vitaguard," a manual, 40 pages. A complete description of the Vitaguard fire alarm system for volunteer fire departments and industrial plants.

Mine Safety Appliances Co., Braddock, Thomas and Meade Sts., Pittsburgh, Pa. Four-page bulletin describing MSA H-H Inhalators.

D. B. Smith and Co., Smith Building, Utica, N. Y. "Indian Fire Pump," catalogue, 8 pages. Showing full line of Indian fire pumps, supply tank, carrying rack, repair parts, and pump tank extinguisher.

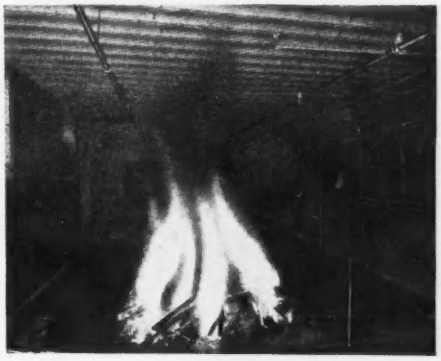
NOTHING SENSATIONAL

ABOUT THE

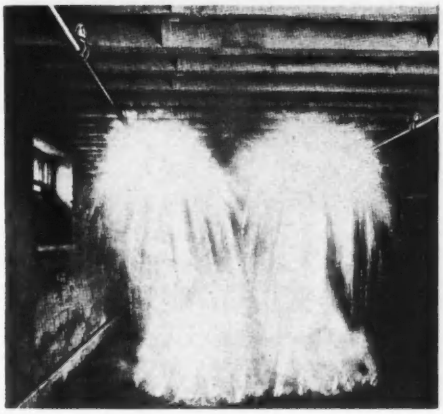
POSITIVE PROTECTION

Globe Automatic Sprinklers

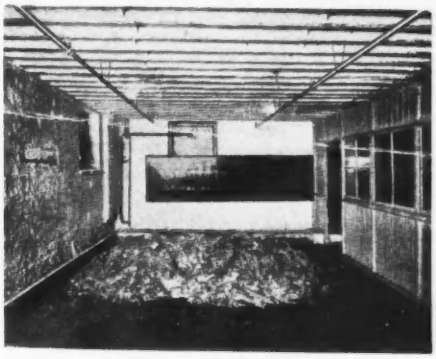
AFFORD



After a fatal School fire Automatic Sprinklers were installed in one of the old "built-to-burn" Schools. To convince the skeptical a fire was kindled under sprinklers in the basement.



Of course the sprinklers opened when the fire had progressed far enough, as automatic sprinklers have been doing for more than fifty years in industrial and other kinds of properties, and then—



The sprinklers put the fire out, just as they have been doing for a half a century, making factories, shops, etc., safer than Schools. Who has ever heard of a fire-panic in a sprinklered building?

They SAVE LIVES AND PROPERTY by striking at the fire itself and checking it before it has become a force for devastation.

Records show A LIFE HAS NEVER BEEN LOST in a building when the sprinklers were in working order.

They have reduced the AVERAGE LOSS FOR A FACTORY FIRE TO $265.

They CONSERVE WATER by using it effectively at the seat of the fire only.

They REDUCE INSURANCE COST 60% to 90%.

Nation-wide prompt skilled service available for Globe Quality Automatic Sprinkler Protection.

THEY PAY FOR THEMSELVES

GLOBE AUTOMATIC SPRINKLER COMPANY

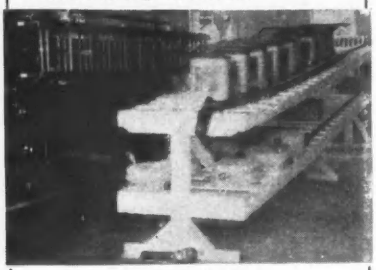
2035 Washington Ave. Philadelphia, Pa.

Sales and Engineering Offices in all Principal Cities

VOLUNTEER FIREMEN!

INVESTIGATE the FAMOUS INDIAN FIRE PUMP

An indispensable item of fire fighting equipment is THE INDIAN FIRE PUMP, strongly built 5 gal. extinguisher for grass, roof, awning or spot fires. Metal tank fills with clear water. Easy working of pump throws powerful 50 ft. stream. Ventilated tank prevents cold and dampness reaching carrier's back. Thousands of INDIANS are in use by departments all over the U. S. Write for descriptive circular.



Indians in Rack at Long Lake, N. Y. Fire House

TRUCK CARRYING RACK

The Carrying Rack makes the outfit complete. Used for holding Fire Pumps firmly in place on running boards or floors of apparatus. The rack should be ordered with the INDIAN. An accessory that every Fire Department will find indispensable.

Send for Catalog

We will send complete literature describing our line of fire pumps with testimonials from enthusiastic users given exactly as sent us. Everyone interested in Fire Fighting and Fire Protection should be familiar with INDIAN FIRE PUMPS. Write today.

D. B. SMITH & CO.

416 Main St., Utica, N. Y.

Pacific Coast Agents:
Hercules Equip. & Rubber Co.
550 Third St., San Francisco, Cal.
Pacific Marine Supply Co.
1217 Western Ave., Seattle, Wash.
Western Loggers' Machinery Co.
302 S. W. 4th St., Portland, Oregon

Volunteer Firemen

Professional Journal of the Volunteer Firemen's Section of the National Fire Protection Association

Published by the National Fire Protection Association, a voluntary non-profit organization, 60 Batterymarch Street, Boston, Massachusetts, U.S.A. Franklin H. Wentworth, Managing Director. Percy Bugbee, Assistant Managing Director. Horatio Bond, Managing Editor.

Volume 4 **October, 1937** Number 10

Delayed Alarm Disastrous The folly of attempting to fight a fire without promptly calling the fire department was again well emphasized shortly after midnight on August 12, 1937, when a large flour and feed mill at Laury's Station, Pa., was destroyed by fire with a loss of over a hundred thousand dollars. The plant had been struck by lightning at 9:30 the previous evening. At that time the plant superintendent made a superficial inspection and left the premises satisfied that no damage had been done.

That was the first of the series of mistakes which resulted in the almost complete destruction of the plant.

About midnight plant employees smelled smoke and started a more thorough search which resulted in discovering fire blazing between the wheat bins and the outside brick walls. The employees attacked the fire with chemical extinguishers and telephoned to the superintendent and other plant officials. When the plant officials arrived the fire was beyond control and they decided to call help from four nearby volunteer fire departments. There was no external protection provided and fire department pumpers were forced to take suction from a nearby creek. They were called too late however to save the plant.

Delayed alarms are one of the leading causes of large loss fires. When lightning strikes a building it should be considered as a fire and the fire department should be immediately called. Firemen are experienced in locating hidden fires and might have succeeded in finding this fire while it was small. The superintendent failed to do so. Employees are not serving their own best interests when they fail to call the fire department before notifying plant officials of a fire. If the employees had called the fire department instead of waiting for plant officials to arrive they would not be looking for new jobs today.

Volunteer Firemen Begins Fifth Year With the October 1937 issue VOLUNTEER FIREMEN enters its fifth year of service to the Volunteer Firemen's Section of the N.F.P.A. Vol. 1, No. 1 was published in October 1933. The growth of VOLUNTEER FIREMEN in the short space of four years has been phenomenal. The circulation is by far the largest in the fire protection field having reached a total of 26,500 copies monthly. With the present issue, well over a million copies of the magazine have been distributed. Contributing to this popularity is the fine response of volunteers to the membership plan which gives each department in the Volunteer Firemen's Section full advantages of N.F.P.A. membership.

Five years ago volunteer firemen had no professional journal of their own to report outstanding fires as well as new developments in the fire protection field. Today VOLUNTEER FIREMEN makes authentic information on these subjects available at a cost within the means of every fireman.

Eight Companies Newly Enrolled Eight fire departments with 169 members joined the Volunteer Firemen's Section for the first time last month. Two dozen other companies with a total of 528 members renewed membership making the total for the section 557 departments with 12,401 men enrolled. The new members are:

Harrison Fire Department, Harrison, Maine.

American Asphalt Roof Corporation, Kansas City, Missouri.

Lovelock Fire Department, Lovelock, Nevada.

Enka Fire Department, Enka, North Carolina.

Tippecanoe City Fire Department, Tippecanoe City, Ohio.

Linwood Fire Company No. 1, Linwood, Pennsylvania.

Pullman Volunteer Fire Department, Pullman, Washington.

Shinnston Volunteer Fire Department, Inc., Shinnston, West Virginia.

Mack

Allentown, Pa., has just installed this Mack Type 75, 750-gallon pressure volume, centrifugal pumper.

MACK IS *First* IN MODERN DESIGN

THE first enclosed fire apparatus in America was built by Mack. Now Mack scores again with a pumper incorporating modern streamline styling and enclosed de luxe cab. Fire chiefs who have seen this latest Mack agree it is the best-looking apparatus ever built.

• Modern in every detail the de luxe cab is built completely by Mack . . . in Mack factories . . . to the same high standards as Mack apparatus.

• Mack designed it to give the utmost in comfort and convenience. It is of all-steel construction, fully lined and insulated. Seats are deeply cushioned. Controls conveniently placed and smooth working. It's roomy, too, with plenty of leg and headroom for even the tallest of firemen.

• Before you replace present equipment, be sure to investigate this sensational new Mack pumper. It's as modern in construction as it is in design. Because—Mack Has The Facilities To Build The Finest In Fire Apparatus—AND DOES.

MACK TRUCKS, INC., FIRE ENGINE DIVISION, NEW YORK, N. Y.

M • S • A
FIREMAN'S HELMET

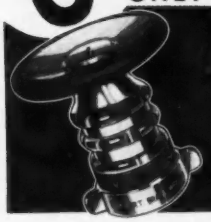
. . . Compare it with any other!

By the verdict of departments from coast to coast, the M.S.A. Fireman's Helmet has *everything!* It makes a trim, smart appearance on parade, and in actual service it has *extra* strength for protection against tremendous blows; plus unusual lightness and comfort, insulation against electric shock, and immunity to the softening effect of water or chemicals.

● We invite you *to test for yourself* the all-around superiority of the M.S.A. Fireman's Helmet. At your request, we'll gladly arrange an actual demonstration for you.

MINE SAFETY APPLIANCES CO.
Braddock, Thomas & Meade Sts. : Pittsburgh, Pa.
District Representatives in the Principal Cities

These **6** **STAR FEATURES CAN BE FOUND ONLY IN THE ELKHART *Mystery* FOG NOZZLE**



No other nozzle has them all!

1. Rubber bumper insures continued effectiveness as fog nozzle . . . protects against blows which may bend barrel and render it useless.
2. Smooth action; will not bind or jam.
3. Complete shut-off; will not leak.
4. No holes to clog.
5. No engagement screw to fall out and cause loss of nozzle control.
6. Leak-proof packing compensates for wear.

These features are important.

For your own protection, see that the fog nozzles you buy are genuine Elkhart Mystery Nozzles.

MADE in SIX SIZES for ALL CONDITIONS.

Write today for illustrated folder.

ELKHART BRASS MFG CO
ELKHART INDIANA

Shuredry **SALVAGE COVERS**

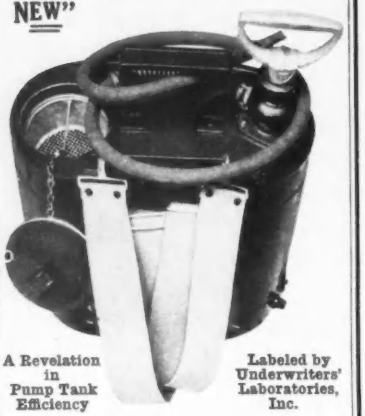
Reduce WATER DAMAGE *and* INSURANCE RATES

Three-fourths of all fire losses are directly chargeable to water damage. Reduce this hazard and better your record. Specify Shuredry Salvage Covers. Drill your men in their use. In every city where Shuredry Salvage covers are a part of regular equipment taxpayers have benefited.

Write our nearest plant for information and prices.

Fulton Bag & Cotton Mills
Manufacturers Since 1870
ATLANTA ST. LOUIS DALLAS
MINNEAPOLIS BROOKLYN NEW ORLEANS KANSAS CITY, KAN.

"THE NEW" FYR-FYTER PUMP TANK



A Revelation in Pump Tank Efficiency

Labeled by Underwriters' Laboratories, Inc.

Write for complete description of this new, sturdily built, powerful, easily operated, Fyr-Fyter Pump Tank. — The acme of perfection in Pump Tank construction.

WANTED—DEALERS

If you are interested in selling approved fire protection devices either as a part-time addition to your present income or as a permanent vocation, send for complete details to

THE FYR-FYTER COMPANY
Dept. 20-22 DAYTON, OHIO

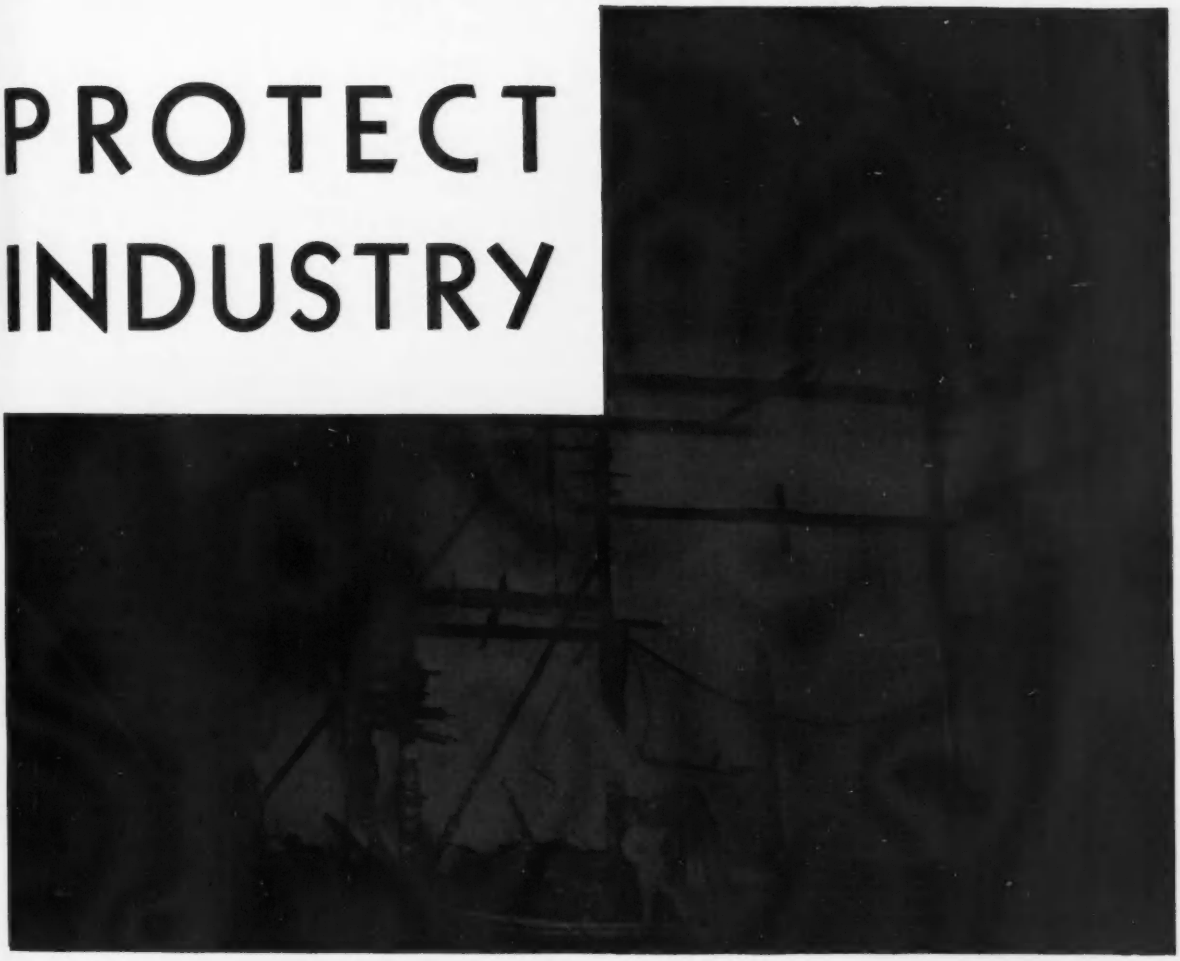
Membership Plan

VOLUNTEER FIREMEN'S SECTION
NATIONAL FIRE PROTECTION ASSOCIATION

INDIVIDUAL membership in the National Fire Protection Association costs $10 per year. The membership plan for the Volunteer Firemen's Section is designed to give each fire company the advantages of N.F.P.A. membership. The fire company, as a member, receives at its headquarters a complete set of all regular N.F.P.A. literature, including the *Quarterly* magazine, as issued. In addition, as a special service to the Volunteer Firemen's Section, each fire company holding N.F.P.A. membership is entitled to have copies of the magazine VOLUNTEER FIREMEN sent to the home addresses of 20 firemen each month. If more than 20 firemen want to receive the magazine, an additional 50 cents should be sent in with the membership fee for each fireman in excess of 20 listed on the application blank.

Because of the large amount of material mailed to members, not less than $10 can be accepted from any company or department for membership dues.

PROTECT INDUSTRY



PROPERTY CREATED BY YEARS OF INDUSTRY IS DESTROYED BY FIRE IN AN HOUR

as the result of only a slight delay in sending an alarm.

Fire is the greatest destroyer of property, and—*delay* due to inadequate facilities for transmitting alarms to the fire department is the greatest accelerator of the flames.

A Vitaguard Fire Alarm System with adequate box distribution and an efficient public alarm, gives the fire department a chance to keep losses small, and relieves the community from the responsibility for the consequences of *Delayed Alarms.*

Write for illustrated catalogue.

THE GAMEWELL COMPANY

NEWTON UPPER FALLS MASSACHUSETTS

The Threefold Fire Alarm Box

"A Box a Block" in congested high value districts; not more than 500 feet to the nearest box in closely built residential districts; convenient to every group of buildings, manufacturing establishments, and institutions in sparsely built districts is generally a safe rule to follow.

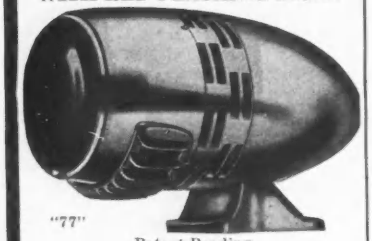
Specify

FEDERAL "77"

DOUBLETONE,

LONG ROLL SIREN

WITH RED FLASHING LIGHT



"77"

Patent Pending

Here is a siren with two distinct tones—a high, piercing tone to penetrate closed cars with a shriek for instant action—and a low, carrying tone that clears traffic for blocks ahead. To add to the carrying power, the frequencies of the two tones cross at regular intervals to produce an extra weighted beat that rolls ahead like the third wave at the seashore. You get two tones and triple power! And combined with this are the features of our famous C-5 Coaster Siren—the brilliant red or green flashing light beam, enabling traffic to both SEE and HEAR your warning—long roll of more than TWO MINUTES after current is shut off—grease sealed ball bearing motor — all-chrome finish. Write for New Bulletin No. 56 for complete details.

Federal vertical Siren Mounted on Tower. Approved by the National Board of Fire Underwriters.

Federal VERTICAL Sirens are most practical because

(1) They distribute sound in a wide range in all directions.

(2) Rugged in construction to withstand all kinds of abuse.

(3) Entirely weatherproof housing finished in Red Duco withstands sleet, rain, hail and dust storms.

(4) They are equipped with special high speed, ball bearing Federal Siren motors.

Write for Bulletin No. 55 for complete details.

FEDERAL ELECTRIC CO.

8717 So. State St. Chicago, Ill.

Bring Home $10.00 Easy Money

Pyrene Prize Letter Contest Pays for Stories of Good Work Done by Firemen With Extinguishers

A FIRE fighter may keep cool when the blaze is in his neighbor's property but when his own life and property are at stake he wants a fire extinguisher which will not fail. The winners of the first two prizes in the Pyrene contest this month had experiences which endangered their own lives, but which also increased their respect for the dependability of approved types of fire extinguishers. Other firemen have had interesting experiences with extinguishers. A letter describing such experiences can bring cash awards in the contest which is conducted jointly by the Pyrene Manufacturing Company of Newark, N. J. and VOLUNTEER FIREMEN.

FIRST PRIZE — $10.00

A. RUDKIN, *Chief,*
Fire Department, Cuba City, Wis.

Chief Saves Own Plant

"One oppressingly hot day in July, at my gasoline bulk plant, I thought I would save time by filling my driver's tank while the tank truck was being filled. Hardly had I started pouring the gasoline when flames, due to static electricity, flew out of the funnel into my face. Startled, I splashed the contents of the bucket on myself, and instantly was a burning torch. At the same instant the truck cab was aflame. To add to the horror the tank truck was about full and might overflow, ignite and spread the fire to five storage tanks. Aflame myself, I dared not approach to shut off the electric pump. Quickly rolling in some nearby gravel until the flames on my clothing were smothered, I ran to the pump house, shut off the motor, seized a two wheel carbon-dioxide extinguisher and bested the menace in short order. In the meantime, seeing the dense smoke, an alarm had been sent in and my fire laddies were soon on the scene but only had a smouldering picket fence left to work on."

SECOND PRIZE — $3.00

C. V. MILLER,
Fire Department, Fayette, Ohio

Extinguisher Saves Own Life

"On July 31, after I had just about completed the filling of a 25 gallon tank of a gasoline transport truck, the driver who was in the cab lighted a cigarette and tossed the match out of the window. The wind carried the still burning match over the tank that I was filling, igniting the fumes. I jumped away letting go of the hose which slopped gasoline on me. I pulled off my shirt and grabbed a one quart carbon-tetrachloride extinguisher which is kept just inside the door of the station. I put out the flaming shirt and then used it to smother the flames on my arm. Then with the extinguisher I put the tank fire out without damage to the truck."

THIRD PRIZE — $2.00

WILLIAM H. DYKE,
Kirtland Volunteer Fire Department,
Willoughby, Ohio

Ancient Extinguisher Saves Day

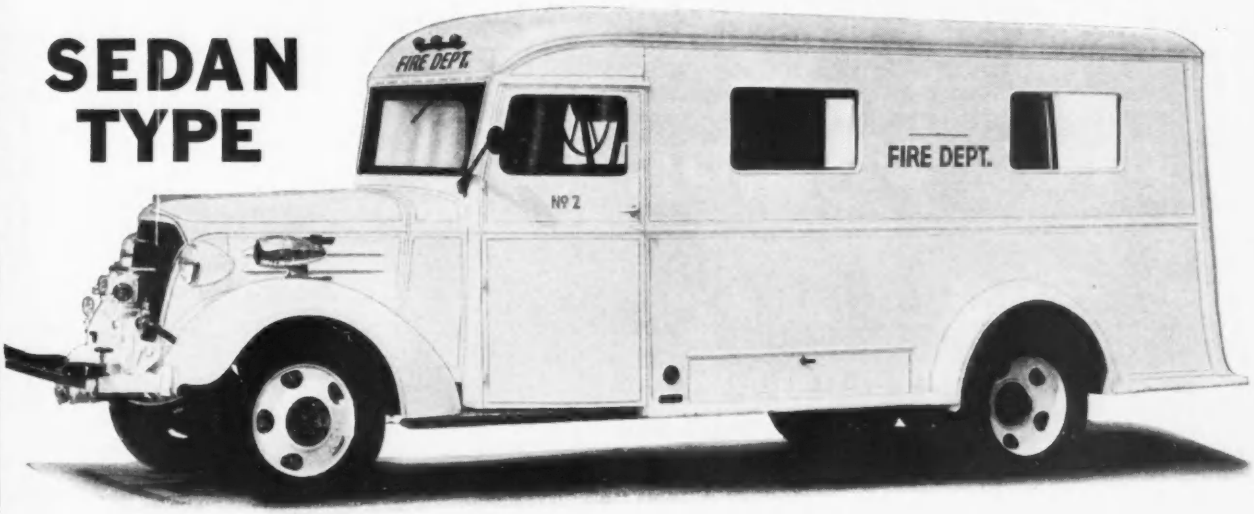
"In 1920 I put two one-quart carbon-tetrachloride fire extinguishers in a country store. About two weeks ago an oil stove caught fire and set fire to a neighbor's place of business which is also his residence. He was a one legged man and hobbled to my store for assistance. We took a chance (or so we thought) with one of these old extinguishers and saved the building with little damage. I have been tempted to dispose of them several times thinking they were too old but will keep them another 17 years."

CONTEST RULES

1. Contestants in the Pyrene Prize Letter Contest must be members of their local fire department.
2. Letters are to describe actual experiences where any approved fire extinguisher of any make has saved lives or property.
3. Trade names may be used but will be deleted in publication. Publishers reserve the right to edit winning letters to permit publication.
4. Each contestant automatically vouches for the truth of the facts presented from his own or others' experience.
5. Only one letter may be submitted each month.
6. Letters must be legibly written in ink or typewritten on white paper, one side only. Preference will be given to letters not over 250 words in length.
7. Letters received after the 8th of the month will be judged in following month's competition.
8. Monthly prizes in cash will be: 1st, $10.00; 2nd, $3.00; and 3rd, $2.00.
9. Address contest letters to Pyrene Prize Letter Contest, National Fire Protection Association, 60 Batterymarch St., Boston, Mass.

CHAMPION Fire Apparatus

SEDAN TYPE



CLOSED APPARATUS AT MODERATE PRICES
The Natural Product of DARLEY ENGINEERING

City Officials and Fire Chiefs have come to expect from W. S. Darley & Co. the finest Fire Apparatus, modern in engineering design and construction, and LOW PRICED.

Our new line of Sedan Type Champion Fire Apparatus is in keeping with Darley traditional policy of dependable Apparatus at moderate prices. Built on any commercial truck chassis, Ford, Chevrolet, Dodge, International, Diamond T, Studebaker, Reo, White, Federal, etc. Our Sedan line includes special models for City and Rural service with Front or Midship Mounted Champion Centrifugal Fire Pumps, Underwriter Approved.

The Sedan Type shown above with Front Mounted Pump is built on a Chevrolet 1½ ton, 157" w.b. chassis. Constructed to customer's specifications, it carries 250 gallon booster tank and reel, hose bed for 1000 feet 2½" hose, seating for 6 men, 2 in front, 4 in rear, space for a stretcher case, special compartments for salvage covers, first aid and resuscitation outfits, and other equipment. Shatter-proof roll-down windows, two each side. Adequate room inside for suction hose, ladders, playpipes, extinguishers, axes, etc.

Write for specifications and prices or give us your specifications and we will quote on Sedan Apparatus engineered and built exactly to your requirements.

A POWERFUL CHAMPION INTERNATIONAL built for SAVANNAH BEACH, GA.

America's *Fastest Selling* Fire Apparatus!

CHAMPIONS RECENTLY DELIVERED TO

Thompsontown, Pa.
Bartlett, Ill.
Alexandria, Pa.
Herald Harbor, Md.
Pima, Ariz.
Rosendale, N. Y.
Hawesville, Ky.
Tunnelton, W. Va.
Westmere Fire Dist., Albany, N. Y.
Williamsburg, Iowa
Quitman, Ga.
Ravenswood, W. Va.
Everglades, Fla.
Hyannis, Mass.

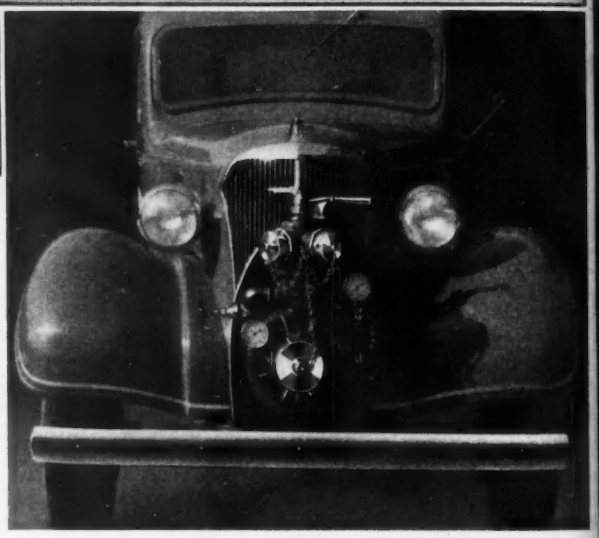
WRITE FOR THE NEW 100 PAGE CATALOG OF APPARATUS, PUMPS and "Everything For Fire Depts."

W. S. DARLEY & CO.
2810 Washington Boul., Chicago

BARTON FIRE PUMPS

Greater ECONOMY
Better PERFORMANCE

Ideal for Town or City Service—
Pumping Clean or Dirty Water
•
Underwriters' Tested
•
Pressures Up To 250 Lbs.
•
Front Mounted for Convenience and Economy



Barton Pumps have revolutionized fire fighting. They have made it possible for small towns and villages to have first-class pumping apparatus—pumpers equal in speed, performance and dependability to anything found in the large cities. *And at a price practically any community can afford to pay.*

First, the Barton Fire Pump itself is not expensive. By advanced engineering we have accomplished wonders at low cost.

Second, a Barton Pump requires no special, high-priced fire truck to give you all the water and all the pressure you want. You can select any low-cost, standard commercial chassis, and have a real job that your whole community will be proud to own. With our unique front-mounting, a Barton Pump can be attached to your truck in a few hours' time—not a single chassis change required. *You save hundreds of dollars right there.*

WRITE FOR COMPLETE INFORMATION

Mr. Chief, investigate the Barton *first*. Read at right what other chiefs say. Then write us for FREE Bulletin 75 which gives the whole story on Barton Fire Pumps in various sizes to meet every need and pocketbook.

SATISFACTION *from Coast to Coast*

MANTEO, N. C. — "We purchased our Barton Fire Pump in 1933, and it has worked like a charm. We do all our pumping from draft, either from ditches, or creeks, and up to now not had one minute's trouble."

MARYVILLE, WASH. — "We are well pleased with our Barton Fire Pump. We have had it five years. We pump from hydrants, and at suction from rivers, ponds or cisterns as the need may be."

NEWTON, KANSAS —"We have had our Barton Pump in service three years. We use it on all fires, including rural fires, and it has done all we asked of it to date."

FRANKLIN, VIRGINIA — "The pump delivers an abundance of water from two hose lines, and being front-mounted it is very easy to make connections to the hydrant in less time."

BANGOR, MICH. — "At this fire the value of the Barton rural fire-fighting pump was fully demonstrated. The suction hose was placed through a hole chopped in the ice of a nearby pond and two streams of water under high pressure quickly quenched the flames."

GREENWICH, N. Y. —"We have a Barton Fire Pump mounted on the front of a V-8 Ford truck. This pump has done great work out in the country where there isn't any fire hydrants. We have saved three houses since we had this pump installed."

AMERICAN-MARSH PUMPS, INC.
CENTRIFUGAL, TURBINE, STEAM, AND POWER PUMPS
BATTLE CREEK, MICHIGAN . . . . PUMPS AND PUMPS ONLY SINCE 1873

PRINTED IN U. S. A.

VAN GOT

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